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Twenty-four matched pairs of culturally deprived first grade children were divided into an experimental and control group to investigate the effect of special reading instruction on the reading ability of these children. The teacher who administered this special instruction was considered very competent, and the instructional content, although not new, was well organized. The experimental group received the additional instruction three times a week for 40-minute periods from October 1964 to June 1965. Posttests indicated no existence of significant differences in reading ability between the two groups. It was concluded that the failure of this intervention program might be due to the inadequacy of using additional conventional reading readiness instruction instead of introducing instructional innovations. The five areas stressed by the intervention program were (1) visual discrimination, (2) auditory discrimination, (3) language development, (4) cognitive learnings, and (5) developing body image sense. Perhaps the elaboration of these curriculum-content areas herein will suggest possible fresh approaches to teaching reading readiness to the educationally disadvantaged. (MD)

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AN EARLY INTERVENTION PROGRAM THAT FAILED

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The attached language readiness program was prepared by Mrs. Louise Modell under the sponsorship of the Mobilization for Youth (MY) Delinquency Control Project in New York City. It served as her working plan for intensive early intervention with socially disadvantaged children diagnosed as potential reading retardates upon entrance into the first grade. She undertook this project as the first part of a two-stage experiment with preventive techniques. Its immediate objective was to test whether reading clinic services administered at the beginning of the child's elementary school experience made any difference in his early reading performance. If it were to prove successful, the plan then was to replicate the study on a larger population and do a follow-up comparison of the effects of the intensive preventive efforts such as these, as against the remediation services that are generally begun no earlier than the middle-grade level in the New York City public school reading clinics.

The experiment commenced as follows: In June, 1964, kindergarten teachers of several depressed-area schools were invited to nominate the children they thought would eventually become the severest reading retardates in the elementary and high schools. Out of this pool of nominees, 24 pairs were then matched on the bases of age, sex, ethnicity (almost all were lower-class Puerto Ricans and Negroes), and the Bender-Gestalt Test (using Koppitz' scoring scheme for predicting reading failure). The Experimentals and Controls were assigned randomly to regular first-grade classes, with the Experimentals receiving special treatment during school hours from Mrs. Modell at the MY Reading Clinic. Mrs. Modell, who is regarded by her colleagues and supervisor as an outstanding reading teacher and early childhood specialist, conducted her sessions regularly from October, 1964, to June, 1965, working with groups of four pupils in 40 minute periods, three times a week.

Post-test scores on the Metropolitan Reading Achievement, California Reading, New York Reading Readiness, and teacher-made tests of color, letter, and number recognition showed no difference between the groups. The Experimentals and Controls had virtually identical mean scores on nearly all of the sub-tests. The degree of early retardation in both groups is reflected in the fact that neither group exceeded the 50th percentile in mean composite scores on the New York Reading Readiness Test at the end of their first year at school. Moreover, both groups were more deficient in conceptual skills than in word matching, the Experimentals scoring at the 37th percentile (versus the 63rd percentile in the word matching) and the Controls at the 43rd percentile (versus the 60th percentile in word matching). Thus, as Mrs. Modell observed in her end-of-year report, the Experimentals seemed able to learn one mechanical skill (visual discrimination) but were under-developed in the broad conceptual background basic to reading comprehension, organization, and generalization. The possibility of delayed effect of

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clinic treatment will be explored in June, 1966 when Experimentals and Controls are compared on reading achievement tests at the end of the second grade after one year of no special intervention for either group.

It is important to note that Mrs. Modell's reading curriculum does not break new ground in readiness instruction. Its design includes the familiar elements of beginning reading programs prescribed by early childhood curriculum specialists for first graders in general. The only innovations intended for the program were the timing, the grouping, the setting, the intensity, and the scheduling of instruction, not its contents or methodology. Yet, with the best features of "conventional" reading readiness instruction administered by a highly reputed teacher who had at her disposal a rich variety of instructional material in relaxed, uncrowded surroundings, the program failed. Failure under these circumstances tends to cast some doubt on the oft-repeated assumption that schools have the blueprint for reversing educational retardation among the socially disadvantaged, but are not succeeding because they lack the skill or desire to carry out their plan effectively. To the extent that early intervention has any special value with such a population, it seems evident from this study that the familiar blueprint for readiness instruction is not the instrument in which to invest much hope, even if it is placed in the hands of superior teachers. Mrs. Modell's plan seems most impressive in that it deals systematically with cognitive skills basic to success in reading. However, it is restricted to treating the symptoms of early retardation (which may not vary between social classes and ethnic groups) without regard for its etiology (which probably does vary). In other words, Mrs. Modell took her pupils "as they came", working with cognitive deficits among disadvantaged children in much the same way she would have done with middle-class children showing the same deficits. It is possible that no single intervention program can have equal face validity for both groups, even if their diagnostic profiles are similar.

Innovation is needed, therefore, not necessarily through a re-packaging of conventional programs or providing "more of the same", but through new designs conceptualized to take into account the special etiology of deficits in cognitive skills manifest among disadvantaged children. This study illustrates to some extent the futility of relying on existing instructional strategies rather than brainstorming for new ones.

The following is a description of the 5 areas which were stressed and for which activities were developed in the Early Intervention Experiment.

I. VISUAL DISCRIMINATION

Discussion

Lessons were designed to help the children learn a number of kinds of visual discrimination and differentiation, using two dimensional and three dimensional items. At the beginning of the program, approximately three quarters of the children could not identify colors correctly. The

ability to differentiate and identify colors is basic to most kinds of primary classroom instructions. Some reading readiness texts (Houghton-Mifflin: Getting Ready to Read) use extensive color clues to teach the child where to look on the page. "Look at the orange box to the right of the blue bar."* The child who is not already facile with color names would be completely lost in this kind of pre-reading instruction.

Description of Some Activities

Color Discrimination

For the reasons stated above, learning to identify colors quickly and accurately was considered important for children in this program. Various kinds of materials and lessons were devised to help the children become aware of differences in color and identify colors correctly. Experiences identifying color in toys, musical instruments, and objects around the room were provided extensively. Simple games, (I see something red) and simple repetitive songs, (Mary Wore a Red Dress) were tried with some success.

The break-through in learning colors came with the use of candies. A typical lesson procedure was as follows:

After observing and discussing the color of a small pile of candies (in this case, gumdrops), the children were shown two of either the same or two different colors and asked to identify the candies as same or different. Each child was given several opportunities to do this kind of identification. Then the task was extended to the identification of three candies, two of which were alike, one different. The children were asked to point to and verbalize several things, i.e., "one green one and two red ones," or "the red one is different, the green ones are the same." When candies were involved in the sessions, the attention of even the most immature children was fairly constant, they made noticeable efforts to follow the teacher's instructions, they watched what their neighbor did, and made comments on the correctness of each other's designations, and seemed better able to project the process of identification to each new example without having the instructions repeated. In short, they were better able to mobilize their attention and maintain it.

Candies were then used more extensively to identify colors, through experience charts, stating which child liked a given color. One particularly exciting lesson centered around the composition of written order list, directing the clinician with color of candy to buy for the next session: "Juan wants a red lolly-pop. Marilyn wants a yellow lolly-pop," etc.

*Lesson 25, Unit II, Teachers' Edition, Getting Ready to Read.

Candies were used later to aid in the visual discrimination of letters. Five-cent candy bars were presented to the groups. Before the candy was eaten, many aspects of the packaging were observed and discussed: Letters were identified if they were fashioned in a familiar configuration; fancy lettering was translated into the configuration the children work with in school, and explained; the clinician read words to the children which explained the contents, and these were discussed. Sometimes the children were encouraged to guess the contents of the package from examination of the wrapper. They were encouraged to use visual clues, experiences with past lessons and candy wrappers, color clues (brown on a wrapper often means chocolate, and pink, strawberry, etc.)

The high interest maintained by the children in these candy lessons can be analyzed from several standpoints. All children are motivated by the opportunity to eat candy. All children are interested, curious, and have some knowledge of candy, especially the penny-candy type or five-cent bar type sold in the local candy store. Supplies for this project were bought in the neighborhood of the school. Candy can certainly be considered part of the children's immediate culture, no matter how 'deprived' they are. Somehow they all get to the candy store, and have had opportunities to see, feel, handle, and eat candy.

Discrimination of Size, Shape, Pictures, Symbols

Visual discrimination of size, shape, and spatial placement are other important skills for pre-reading success. Many kinds of lessons were planned to help the children acquire an ability to note and understand these concepts.

One very successful material (from the point of popularity and enthusiasm expressed by the children) was the regular kindergarten or unit blocks. Starting with "games" in which each child had an opportunity to find another block like the first one, from a mass of blocks spread out on the floor, the lessons progressed to exercises substituting short and tall blocks for letters in words, (configuration). The children recreated words printed in large letters on cards by lining up small and tall blocks along a line taped on the floor. The line is an important feature of these exercises if the children are to internalize an idea of letters that go below a line. It was gratifying to see how quickly the children could perceive and recreate the relative sizes of letters in a given word after they had had enough experiences and instruction in size and placement on a line or within a space. The children also seemed to develop a sense of relative length and component parts of words by the substitution of blocks for letters. They could readily count back to see if they had included the correct number of letters, how many were tall letters, and so forth.

Evaluation of Lessons in Visual Discrimination

At the termination of the project, visual discrimination tasks, matching tasks, proved to be an area where the children seemed to have achieved the most success. Children who could not yet name letters, or read more than a few sight words, could match letters and words with alacrity.

II. AUDITORY DISCRIMINATION

Discussion

Auditory discrimination is one of the areas where the children in this program showed the most difficulty, and yet it is one that is quite difficult to plan for and teach. Distinguishing small differences in spoken language is a particular problem, both in the non-English speaking child and in children from homes where English is the language, but of such poor quality that the language they hear in school must appear almost like a foreign language. Many of the children who could understand single words or short phrases appeared completely lost with longer sentences, containing clauses, especially conditional clauses. Instructions such as "If you think it is the correct answer, then mark it" are particularly difficult. This may be a cultural factor: the children may not be used to hearing and comprehending two conditions within one sentence.

Description of Some Activities

Simple games, such as listening to, remembering, and carrying out two or three directions were beyond the children's ability at the beginning of the term. For example, "Pick up the pencil, put it on the bookcase and then close the door" were too difficult. The children might get one part correct (picking up the pencil) but the other parts would elude them. The child might go and stand by the bookcase, looking questioningly at the clinician and even the others in the group could not help him much. They too were confused. In working with worksheets (Continental Press materials on visual discrimination) they tended to absorb a mental set which was not easily changed by changing the verbal directions. For instance, the children would be instructed to "Put an X on the one that is different." They would not only hear this direction but would also check by looking at a neighbor's paper to see if it was being carried out the same way. When the directions were changed, "Put a line under, put a circle around," the children would go on marking X's (perseveration). They were then taught that the directions were going to be deliberately changed, making the task more complex. They had to listen to distinguish the exact type of mark they should make, and at the same time carry out the visual discrimination task.

When whole word recognition had advanced far enough in some groups (by Easter) lessons in counting plurals were introduced. The children were receptive and some who rarely used plurals in their everyday conversation began to pronounce plural nouns correctly in their oral reading. In a population where common word endings such as -s, -ing, -ed, -ly, etc. are not naturally heard or used in everyday speech, it is understandable that the children would have great difficulty recognizing words, incorporating them, and comprehending how endings change the sound and meaning of a sentence.

The Use of Poetry and Rhymes

Other auditory lessons centered around poetry, starting with the most familiar nursery rhymes and progressing to unfamiliar poems such as John Ciardi's book, You Read to Me, I'll Read to You. Poetry chosen for teaching rhymes must be simple and understandable to the child or so familiar from repetition that it provides some cognitive hooks on which the child can hang his attention.

Nursery Rhymes, although often composed of unfamiliar words, (little Miss Muffet sat on a tuffet eating her curds and whey) are somewhat familiar even to Spanish-English speaking children. Therefore, on the 'hooks' of understanding that a girl sat somewhere eating, an explanation of curds and whey can be 'hung.' Modern children's poetry, such as John Ciardi's, although it requires more imagination, is concerned with fantasies familiar to all young children, and thus provides a convenient comprehension base from which to build sensitivity to rhymes. Games involving listening to and identifying rhyming words out of context were used also. One was a teacher-made flannel board game, using pictures of objects whose names rhyme, (house-mouse). The children were taught to locate and place together two pictures that rhymed. This could be a group game, taking turns matching a card to one placed on the board by another child, or an individual reinforcement activity for one child alone. A ten-cent store coloring book on rhyming words was also used. The children read the labels under the pictures, many of which were objects rather unfamiliar to the children, (carrot, parrot, bonnet; flower, tower, snout), but since the pictures were big and attractive, and coloring books are a part of the children's culture even in deprived areas, there was enough base on which to discuss the pictures, introduce the unfamiliar objects, and then listen to distinguish the names that rhymed. The reward of being allowed to color a page after successful auditory work with it seemed most gratifying to the children. They always begged to be allowed to take the pages back to their classrooms to color. (For further elaboration of why certain materials were chosen for work with this particular group of children, see discussion of high-interest materials and social learning further on in the report).

Purely auditory games were used. Children covered eyes, to cut out visual distraction, and listened to three words. They were required to identify two that rhymed. Similar games were made up listening to initial consonants and final endings such as the above-mentioned -s, -ing, etc.

The Use of Musical Instruments

Considerable work at the beginning of the term centered around musical instruments (rhythm band) commonly found in kindergarten classrooms. The children loved using these instruments, and quickly learned to identify the sound of each one, and the oral vocabulary to identify each one. Later use of the instruments focused around identifying loud and soft playing of the instruments, quick or slow playing, repeating on one instrument the rhythm or beat demonstrated by another child on a different instrument.

Hiding games, for identifying children in the group by the sound of their voice, were made up and used intermittently throughout the year.

III. LANGUAGE DEVELOPMENT

Discussion

One of the primary foci of this program was the development of the children's ability to deal with oral and written language, and to begin to understand the relationship of oral to written language. For this reason, many kinds of lessons were presented to the children, designed to help them absorb a sense of how written words relate to the sounds of the oral language they heard all around them. Vocabulary development, learning names for objects, actions, prepositions, adverbs, adjectives, learning word meanings; English/Spanish translations were an integral part of the program. Some kinds of activities are listed below.

Description of Some Activities

Experience Charts

The use of experience charts is nothing new to the teaching of language facility. What was stressed in this program was the attempt to compose many charts, incorporating the children's actual language as they expressed their ideas. Dictation stories about the block building just completed or about what the puppets were saying at the moment was considered to be of more importance than teacher-written grammatical exercises about trips to the zoo last week. The richness of the experience and the child's observations about activities seem to have much meaning for little children, and were used as raw material for experience charts. For instance, the following story indicates the material with which the children can be concerned.

The man tried to paint the house tomorrow.
The man put two cloths on the floor and they painted
the walls.
My brother tried to step up on the cloths.
The man put his coat on my television chair.

The Use of Both Planned and Spontaneous Verbalization

The small groups of the circle sessions provided an excellent opportunity for verbal discussion. Children were encouraged to speak up, make observations, comment on the lessons or any part of the lesson they reacted to. It was felt that if language-deficient children were to become a greater vocabulary, and achieve facility in composing thoughts into words, ample opportunity should be provided to practice. Often spontaneously developed discussions were allowed: Group II, reading in the CHILDREN LANGUAGE EXPERIMENT SERIES, wanted to discuss whether the pictures in the picture were drawn or photos and how they got 'on' the page. Then they went on to discuss how the booklets were put together, past and glued the staples, and tape of the binding and related them to similar materials in the classroom. This led to a discussion of the possibility of making their own readers with staples and tape.

With this is added many lessons or experiences designed to teach order, generalization, categorization, and understanding of the immediate physical environment were provided for the children in this program. The more concrete, direct, real-life the experiences could be, the more valuable they were thought to be.

Description of Some Activities

Methods and materials extensively used in kindergarten and nurseries were carried out for these first grade children.

1. Observing, handling, playing with, discussing, and comparing experiences about classroom pets, such as fish, snails, kittens, parakeets. An opportunity to handle pets created much excitement and use of new vocabulary came when a kitten was temporarily loaned to the classroom for a few days. Many aspects of "activities" such as sitting, drinking, running, jumping, playing and sleeping, fear, were discussed. New vocabulary to express ideas about animals was brought out, pointing, moving, fur, whiskers, claws, paws, etc. Because the children in this program all live in crowded tenements or public housing where pets are frowned upon, they lack first-hand knowledge of the animal world, tend to get frightened or over-excited by close contact with animals, and have little actual knowledge of appropriate handling, and little experience of living processes such as breathing or feeding, common to all animals.

As a result of the contact with actual pets were some lessons on the classification of objects that were alive versus those not alive.

Teacher, sitting in the "corner" with the children, "What a box of plastic figures of people, animals, inanimate objects before me. 'Is it real? Is it real? Is it real or made or not? No, then it not alive. It is stone.' (points to a pile of inanimate objects).

2. Drawing, cutting out and labeling pictures of me, myself, and my family. The figures were then mounted on cards of cardstock, and placed in my home, made of blocks.

3. Commercially prepared table games:

Block, the first is a little type game in which a picture of an object (table) must be placed on top of another smaller but slightly different object (table).

Remember, Let's Play Store, in which the children must identify grocery items and place them on the proper counter of the store.

4. Touch and Feel Book: A teacher-made notebook in which actual doll-sized objects are fastened to cardboard pages designed to help teach specific generalizing, associating, or differentiating skills. The children can feel and handle objects as they examine them and note likenesses, differences, associate objects that commonly are used together (comb and brush); objects that are called the same name, (ball horses; a set of different kinds of pins, safety, common, ball, and clothes pins).

5. Musical Instruments: Noting all the kinds of bells, all the instruments that played by shaking, by striking; noting the different kinds of sounds that can be elicited from the same instruments.

6. Learning the Concept and Meaning of "Word" vs. "Letter." At the beginning of the program the children tended to be unaware of the separateness of each letter within a word. They used the designation "word" for "letter" and vice versa. The configuration exercises with blocks turned out to be an excellent way to demonstrate the idea of each letter a separate entity, but each word a collection of separate letters. The idea of space between words was another difficult one for the children and again blocks demonstrated this concretely. The fact that children can move the blocks back and forth to make a space between words seemed to be important to the development of this concept. Later in the term, cut-out plywood lower-case letters were used for the same kinds of exercises but by that time the identification of letters by name was an added skill to learn.

Tailoring Instruction to the Children's Immediate Cognitive Level

A good part of the clinician's professional thinking and planning went into assessment of the level on which the children could understand and think. Even within this select group, cognitive abilities varied widely. Often such assessment meant quick adjustment of the lesson, in the direction of simpler tasks, less items or concepts to be taught. The downward adjustment of organization of thought was often the most difficult to make, but it was the necessity to go back, so to speak, into a three or four year old's manner of thinking, that prompted the use of some of the less convenient kinds of materials, like food and candy, and less conventional kinds of methods, like crawling under tables, mentioned above.

The old axiom that teachers must listen to the children to understand the base from which they are ready to attack a new learning, applied only too obviously here. The clinician had to know the children. By listening to their reactions and comments to a new material or idea, an automatic adjustment to the level at which the children could function was made.

For example, in attempting to teach differences in relative size, shape, and color, a formboard of four graduated sizes of triangles, circles, and squares was one of the materials used. Less developed children started by naming the squares "windows" the circles "balls" and triangles went by their correct name. The clinician then understood that in addition to learning the vocabulary and perceiving relative size, the children would have to start by learning the vocabulary and concept of roundness, squareness, etc. Later they could go on to deal with "the smallest square" or "the largest circle."

A more capable group of children approached the same formboard all ready to work with color, size, and shape designations. This group could from the outset point out, through visual discrimination and without manipulation, the proper position on the formboard in which a given piece might fit. They proceeded then to more complex tasks, such as making a design from three pieces of the form, and describing it verbally to the others. "I put the smallest red circle on the bottom, the biggest yellow triangle in the middle,

the corresponding manner, "I'm corresponding with the family." Correspondence is made in the form of the exchange of letters, and the family is the one who is the main source of the information. The family is the one who is the main source of the information. The family is the one who is the main source of the information.

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CONCLUSION

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